

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-24 (Canceled).

Claim 25 (Currently Amended). An information recording method of recording data on an information recording medium having a data recording portion and management information recording portion in which main and back-up management files are to be ~~located~~ recorded, the information recording method comprising the steps of:

recording a video file or an audio file in the data recording portion, the video file including video data, the audio file including audio data, the video data or the audio data comprising ~~at least one program and object units~~ and being managed by a program;

recording original program chain information in the main and back-up management files, the original program chain information designating a reproduction order of a part of cells representing the video data in the video file or the audio data in the audio file; and

recording new chain information as user-defined program chain information in the main and back-up management files, the new chain information designating a reproduction order of other part of the cells, which is different from a fixed reproduction order designated by the original program chain information, ~~[[; and]]~~

~~recording cell information representing the cells, which is designated by the original program chain information or user-defined program chain information, in the main and back-up management files,~~

wherein the cells are represented by cell information, which is partially designated by the original program chain information or user-defined program chain information, in the main and back-up management files, the main management file and the back-up management file are updated by editing user-defined program chain information of the main management

file and that of the back-up management file, and a reproduction order indicated by the original program chain information is maintained even when the user-defined program chain is edited.

Claim 26 (Previously Presented). An information recording method according to claim 25, further comprising a step of recording cell type information distinguishing a movie cell type and a still picture cell type from each other, in an area in the cell information,

wherein the cell information further includes information indicating presentation start time of the cell (C_V_S_PTM) and presentation end time of the cell (C_V_E_PTM), where the C_V_S_PTM and the C_V_E_PTM satisfy the following conditions:

(1) in a cell in the original program chain, the C_V_S_PTM is required to fall into first four object units of the corresponding video object, and the C_V_E_PTM is required to fall into the last four object units of the corresponding video object; and

(2) in a cell in an user-defined program chain, the following relationship is required to be satisfied:

$$O_C_V_S_PTM \leq C_V_S_PTM < C_V_E_PTM \leq O_C_V_E_PTM$$

where O_C_V_S_PTM and O_C_V_E_PTM are presentation start time and end time of the original cell which corresponds to the object referred to by the cell in the user-defined program chain.

Claim 27 (Currently Amended). An information recording apparatus for recording information on a recording medium, the information apparatus comprising:

a video or audio file recording~~means for recording~~ unit that records a video file or an audio file in the data recording portion, the video file including video data, the audio file

including audio data, the video data or the audio data comprising ~~at least one program and~~
object units and being managed by a program;

an original program chain recording means for recording unit that records original
program chain information in the main and back-up management files ~~in a management~~
~~information recording portion~~, the original program chain information designating a
reproduction order of a part of cells representing the video data in the video file or the audio
data in the audio file; and

a new chain information recording means for recording unit that records new chain
information as user-defined program chain information in the main and back-up management
files, the new chain information designating a reproduction order of other part of the cells,
which is different from a fixed reproduction order designated by the original program chain
information, ~~[[;]]~~

~~cell information recording means for recording cell information representing the~~
~~cells, which is designated by the original program chain information or user-defined program~~
~~chain information, in the main and back-up management files;~~

wherein the cells are represented by cell information, which is partially designated by
the original program chain information or user-defined program chain information, in the
main and back-up management files, the main management file and the back-up management
file are updated by editing user-defined program chain information of the main management
file and that of the back-up management file, and a reproduction order indicated by the
original program chain information is maintained even when the user-defined program chain
is edited.

Claim 28 (Currently Amended). An information recording apparatus according to
claim 27, further comprising a cell type information recording means for recording unit that

records cell type information distinguishing a movie cell type and a still picture cell type from each other, in an area in the cell information,

wherein the cell information further includes information indicating presentation start time of the cell (C_V_S_PTM) and presentation end time of the cell (C_V_E_PTM), where the C_V_S_PTM and the C_V_E_PTM satisfy the following conditions:

(1) in a cell in the original program chain, the C_V_S_PTM is required to fall into first four object units of the corresponding video object, and the C_V_E_PTM is required to fall into the last four object units of the corresponding video object; and

(2) in a cell in an user-defined program chain, the following relationship is required to be satisfied:

$$O_C_V_S_PTM \leq C_V_S_PTM < C_V_E_PTM \leq O_C_V_E_PTM$$

where O_C_V_S_PTM and O_C_V_E_PTM are presentation start time and end time of the original cell which corresponds to the object referred to by the cell in the user-defined program chain.

Claim 29 (Currently Amended). An information ~~recording/reproducing~~ recording medium ~~in which files are recorded~~, configured to have data recorded thereon and data reproduced therefrom by an information recording /reproducing apparatus,

said information recording medium comprising:

a lead-in area located near a center position of rotation of the information recording medium; and

a data area around the lead-in area, the data area divided into logical sectors, each of said logical sectors having a size of 2,048 bytes , the logical sectors being assigned logical sector serial numbers, a part of said logical sectors corresponding to logical blocks assigned logical block numbers respectively,

wherein said data area comprises:

a video file ~~including video data~~ or an audio file ~~including audio data~~, in the data recording portion, the video file including video data, the audio file including audio data, the video data or the audio data comprising [at least one program and] object units and being managed by a program;

a main management file including video or audio management information for use in managing the video data in the video file or the audio data in the audio file;

original program chain information ~~recorded in the main and back-up management files in a management information recording portion~~, the original program chain information designating a reproduction order of a part of cells representing the video data in the video file or the audio data in the audio file; and

new chain information as user-defined program chain information ~~recorded in the main and back-up management files~~, the new chain information designating a reproduction order of other part of the cells, which is different from a fixed reproduction order designated by the original program chain information, [[; and]]

~~cell information recorded in the main management file, the cell information representing the cells, which is designated by the original program chain information or user defined program chain information, in the main and back-up management files,~~

wherein the cells are represented by cell information, which is partially designated by the original program chain information or user-defined program chain information, in the main and back-up management files, the main management file and the back-up management file are updated by editing user-defined program chain information of the main management file and that of the back-up management file, and a reproduction order indicated by the original program chain information is maintained even when the user-defined program chain is edited.

Claim 30 (Currently Amended). An information ~~recording/reproducing~~ recording medium according to claim 29, further comprising cell type information distinguishing a movie cell type and a still picture cell type from each other, in an area in the cell information, wherein the cell information further includes information indicating presentation start time of the cell (C_V_S_PTM) and presentation end time of the cell (C_V_E_PTM), where the C_V_S_PTM and the C_V_E_PTM satisfy the following conditions:

(1) in a cell in the original program chain, the C_V_S_PTM is required to fall into first four object units of the corresponding video object, and the C_V_E_PTM is required to fall into the last four object units of the corresponding video object; and

(2) in a cell in an user-defined program chain, the following relationship is required to be satisfied:

$$O_C_V_S_PTM \leq C_V_S_PTM < C_V_E_PTM \leq O_C_V_E_PTM$$

where O_C_V_S_PTM and O_C_V_E_PTM are presentation start time and end time of the original cell which corresponds to the object referred to by the cell in the user-defined program chain.

Claim 31 (New). An information reproducing method for reproducing information from an information recording medium,

said information recording medium comprising:

a lead-in area located near a center position of rotation of the information recording medium; and

a data area around the lead-in area, the data area divided into logical sectors, each of said logical sectors having a size of 2,048 bytes, the logical sectors being assigned logical sector serial numbers, a part of said logical sectors corresponding to logical blocks assigned logical block numbers respectively, wherein said data area comprises;

a video file or an audio file in the data recording portion, the video file including video data, the audio file including audio data, the video data or the audio data comprising object units and being managed by a program;

original program chain information in the main and back-up management files, the original program chain information designating a reproduction order of a part of cell representing the video data in the video file or the audio data in the audio file; and

new chain information as user-defined program chain information in the main and back-up management files, the new chain information designating a reproduction order of other part of the cells, which is different from a fixed reproduction order designated by the original program chain information,

wherein the cells are represented by cell information, which is partially designated by the original program chain information or user-defined program chain information, in the main and back-up management files, the main management file and the back-up management file are updated by editing user-defined program chain information of the main management file and that of the back-up management file, and a reproduction order indicated by the original program chain information is maintained even when the user-defined program chain is edited, the reproducing method comprising:

reading the video management information, and

accessing the video file or the audio file and reproducing data included in the video file or audio file.